

# CHIP SEAL

## Asphalt Emulsion + Aggregate

Chip seal is a surface treatment that consists of an application of asphalt binder (emulsion or asphalt cement) with layers of embedded aggregate. Chip seal treatments remain one of the most cost-effective methods to preserve infrastructure.



### THE PROCESS

An asphalt distributor applies binder to the prepared surface followed closely by a chip spreader applying a uniform predetermined rate of aggregate. Pneumatic rollers are then used to achieve proper embedment of the aggregate into the binder, followed by brooms that remove excess aggregate from the surface. Once fully cured, a fog seal and striping can occur if desired. Chip seals provide a new skid-resistant wearing surface, stop raveling, seal minor cracks and slow deterioration of the existing surface by mitigating water intrusion.

### \*BENEFITS

- Reduces life cycle costs by 45-50% when compared to traditional hot mix asphalt (HMA)
- Reduces energy use and greenhouse gasses by 50%
- Return to slow moving traffic in one hour
- Extends the life of roadways 5-7 years, reducing lifecycle costs of the roads

### \*ISSUES ADDRESSED

- Minor cracking (less than 1/4")
- Raveling
- Low friction
- Oxidation

### MATERIALS USED

- **Binders:** There are many different binders that can be used in chip sealing. The names change based on state/local specifications. The two main categories are asphalt emulsions and hot applied asphalt cement. Polymers can also be added for additional improved bonding
- **Aggregate:** Several types are used based on available resources. Granite, limestone and slag are the most common. Chip sizes range from 1/4" - 1/2"

*\*Reported by RoadResource.org by PPR*